Yan-Ke Chen

Personal Information

Nationality: Chinese
Date of Birth: 15th Nov, 1997
Gender: male
Email: chenyanke@pku.edu.cn

School of Physics, PKU, No.209 ChengFu Rd.,
Beijing 100871, PR. China
Phone: 86-13969076579
Profile: Yan-Ke Chen - INSPIRE (inspirehep.net)

Education

- **School of Physics, Peking University** Sep. 2020 – Jun. 2025
  Ph.D. in Theoretical Physics
  Advisor: Prof. Shi-Lin Zhu
- **Lanzhou University** Sep. 2016 – Jul. 2020
  B.S. in Physics

Professional Experience

- **Center for High Energy Physics (CHEP), Peking University** Jul. 2025 – present
  Postdoctoral Researcher
  Supervisor: Prof. Shi-Lin Zhu

Awards and Scholarships

- **President Scholarship** Sep. 2024 – Jul. 2025
- **National Scholarship** Sep. 2019 – Jul. 2020
- **Merit Student** Sep. 2024 – Jul. 2025
- **Merit Student Pacesetter** Sep. 2019 – Jul. 2020

Professional Service

- Peer reviewer of Physical Review D
- Peer reviewer of Chinese Physics C
- Peer reviewer of The European Physical Journal C

Skills

- Proficient in scientific computing
- Proficient in Mathematica and C/C++ programming
- Familiar with operation of Linux
- Experienced in CUDA GPU programming

Research interests

- Hadron spectroscopy, exotic states, low-energy hadron interaction, chiral perturbation theory, quark models, strong and electromagnetic decay of hadrons

Presentations

Oral Presentations

- **Frontiers in Multiquark-States Physics**
  Title: Theoretical prediction of a $DD^*\bar{K}^*$ three-body molecular state
  Beijing, China, Jan. 2026

- **9th XYZ Symposium**
  Title: $Qs\bar{n}\bar{n}$ bound states and resonances in quark potential model
  Xi'an, China, May. 2024

- **7th Symposium on Symmetries and the emergence of Structure in QCD**
  Title: Doubly-heavy tetraquark bound states in quark potential models
  Rizhao, China, Jul. 2023

Poster Presentations

- **11th Five-University Alliance Doctoral Academic Forum**
  Title: A unified description of the tetraquark states in the quark potential model
  Hefei, China Dec. 2024

Publications

- **Electromagnetic properties of heavy hadrons with χPT**

  ☞ **Y. K. Chen**, L. Z. Wen, L. Meng and S. L. Zhu, *Electromagnetic polarizabilities of the spin-$\frac{1}{2}$ singly heavy baryons in heavy baryon chiral perturbation theory*, *Phys. Rev. D* **111**, 054019 (2025). arXiv:2412.02297.

  ☞ L. Z. Wen, **Y. K. Chen**, L. Meng and S. L. Zhu, *Electromagnetic polarizabilities of the spin-$\frac{3}{2}$ baryons in heavy baryon chiral perturbation theory*, *Eur.Phys.J.C* **85**, 1210 (2025). arXiv:2506.18800.

  ☞ H. Dang, L. Z. Wen, **Y. K. Chen** and S. L. Zhu, *Electromagnetic polarizabilities of the triplet hadrons in heavy hadron chiral perturbation theory*, *Phys. Rev. D* Accepted. arXiv:2602.05502.

- **Exotic states with hadron-hadron interaction and coupled-channel analysis**

  ☞ **Y. K. Chen**, L. Meng, Z. Y. Lin and S. L. Zhu, *Virtual states in the coupled-channel problems with an improved complex scaling method*, *Phys. Rev. D* **109**, 034006 (2024). arXiv:2308.12424.

  ☞ **Y. K. Chen**, L. Meng, J. Z. Wang and S. L. Zhu, *Existence of the $DD^*\bar{K}^*$ and BB^*K^* three-body molecular states*, arXiv:2602.12010.

  ☞ J. Z. Wang, Z. Y. Lin, **Y. K. Chen**, L. Meng and S. L. Zhu, *Probing the pole origin of $X(3872)$ with the coupled-channel dynamics*, *Phys. Rev. D* **111**, L111502 (2025). arXiv:2308.12424.

- **Production of exotic states**

  ☞ **Y. K. Chen**, J. J. Han, Q. F. Lü, J. P. Wang and F. S. Yu, *Branching fractions of $B^- \to D^- X_{0,1}(2900)$ and their implications*, *Eur. Phys. J. C* **81**, 71 (2021). arXiv:2009.01182.

  ☞ Q. Wu, **Y. K. Chen**, G. Li, S. D. Liu and D. Y. Chen, *Hunting for the hidden-charm molecular states with strange quarks in B and B_s decays*, *Phys. Rev. D* **107**, 054044 (2023). arXiv:2302.01696.

- **Spectrum of exotic states with quark models**

- ☞ **Y. K. Chen**, W. L. Wu, L. Meng and S. L. Zhu, *Unified description of the $Qs\bar{q}\bar{q}$ molecular bound states, molecular resonances, and compact tetraquark states in the quark potential model*, *Phys. Rev. D* **109**, 014010 (2024). arXiv:2310.14597.
- ☞ W. L. Wu, **Y. K. Chen**, Y. Ma, L. Meng and S. L. Zhu, *Tetraquark states in the quark model*, *J. Subatomic Part. Cosmol.* **4**, 100184 (2025). arXiv:2508.11161.
- ☞ W. L. Wu, **Y. K. Chen**, L. Meng and S. L. Zhu, *Benchmark calculations of fully heavy compact and molecular tetraquark states*, *Phys. Rev. D* **109**, 054034 (2024). arXiv:2401.14899.
- ☞ L. Meng, **Y. K. Chen**, Y. Ma and S. L. Zhu, *Tetraquark bound states in constituent quark models: Benchmark test calculations*, *Phys. Rev. D* **108**, 114016 (2023). arXiv:2310.13354.
- ☞ W. L. Wu, Y. Ma, **Y. K. Chen**, L. Meng and S. L. Zhu, *Doubly heavy tetraquark bound and resonant states*, *Phys. Rev. D* **110**, 094041 (2024). arXiv:2409.03373.
- ☞ W. L. Wu, Y. Ma, **Y. K. Chen**, L. Meng and S. L. Zhu, *Fully heavy tetraquark resonant states with different flavors*, *Phys. Rev. D* **110**, 034030 (2024). arXiv:2406.17824.
- ☞ Y. Ma, L. Meng, **Y. K. Chen** and S. L. Zhu, *Doubly heavy tetraquark states in the constituent quark model using diffusion Monte Carlo method*, *Phys. Rev. D* **109**, 074001 (2024). arXiv:2309.17068.
- ☞ Y. Ma, L. Meng, **Y. K. Chen** and S. L. Zhu, *Ground state baryons in the flux-tube three-body confinement model using diffusion Monte Carlo*, *Phys. Rev. D* **107**, 054035 (2023). arXiv:2211.09021.
- ☞ Y. Ma, W. L. Wu, L. Meng, **Y. K. Chen** and S. L. Zhu, *Fully strange tetraquark resonant states as the cousins of $X(6900)$*, *Phys. Rev. D* **110**, 074026 (2024). arXiv:2408.00503.